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## **BLENDED LEARNING FOR BIOETHICS EDUCATION IN GENETIC ENGINEERING**

### **Abstract:**

Blended learning is a pedagogical approach that incorporates the elements of traditional lecture-based teaching and e-learning activities. Recent research has suggested that this pedagogical approach can substantially enhance the effectiveness of teaching and learning in STEM (Science, Technology, Engineering and Mathematics) education. In comparison with traditional lecture-based classes, students in blended learning classroom have also been shown to experience more conceptual changes and achieve better academic performance. However, little is known about the effectiveness of blended learning in some cross-disciplinary courses such as bioethics. Research on the key factors that may contribute to its successful implementation is also scarce. This is partly due to the fact that it is difficult to design a lesson plan that can not only help students understand the abstract biological concepts, but also critically evaluate their implications from philosophical perspectives. Moreover, the development of course can be further complicated if the academic background of target students is diversified and the class-size is large. In this study, we would like to present a case in the design and implementation of blended learning activities for bioethics education in genetic engineering. The strategies for the development of multi-media learning materials and the application of Mixed-Reality technologies in learning activities will also be discussed.

### **Keywords:**

blended learning, bioethics, genetic engineering, general education, mixed reality.

**JEL Classification:** I20, I23